FARMS.

Of the 555,734 additional farms in the United States since 1880, 285,422 were cultivated by owners, 132,302 were rented for money, and 138,010 were rented for shares of products, there being an increase since 1880 of 9.56 per cent in the number of farms cultivated by owners, of 41.04 per cent in the number of farms rented for money, and of 19.65 per cent in the number of farms rented for shares of products.

Every state in the North Atlantic division showed a decrease in the number of farms cultivated by owners, aggregating 47,471, or 8.12 per cent, while there was an increase of 3,109, or 6.34 per cent, in the farms rented for money, and of 6,792, or 10.91 per cent, in the farms rented for shares of products. Of the decrease in the number of farms cultivated by owners, New York contributed 20,714, or 43.63 per cent, of the entire decrease of the division.

In the South Atlantic division all the states but Delaware and the District of Columbia showed an increase in the number of farms cultivated by owners, there being a net increase in this division of 49,384, or 12.00 per cent. There was an increase of 21,152, or 28.22 per cent, in the number of farms rented for money and of 34,635, or 21.95 per cent, in the farms rented for shares of products.

In the North Central division there was an increase of 123,861, or 9.17 per cent, in the number of farms cultivated by owners, Ohio, Indiana, and Illinois being the only states not showing an increase. Illinois shows a decrease of 16,649 farms cultivated by owners, or 9.49 per cent, while the Dakotas show an increase of 52,496 farms, or 313.28 per cent. There was an increase of 58,505, or 65.93 per cent, in this division of the number of farms rented for money and of 43,488, or 16.79 per cent, in the number of farms rented for shares of products.

In the South Central division there was an increase of 103,416, or 18.29 per cent, in the number of farms cultivated by owners, every state showing an increase. There was an increase of 46,809, or 44.54 per cent, in the number of farms rented for money, Kentucky being the only state showing a decrease, and an increase of 49,899, or 23.10 per cent, in the number rented for shares of products, Tennessee and Alabama showing a decrease.

In the Western division there was an increase of 56,232, or 78.09 per cent, in the number of farms cultivated by owners, New Mexico and Nevada being the only two units showing a decrease. There was an increase of 2,727, or 59.74 per cent, in the number of farms rented for money, Nevada only showing a decrease, and an increase of 3,196, or 44.68 per cent, in the number rented for shares of products, New Mexico and Nevada showing a decrease.

Comparison with the farm family statistics in the census report on "Farms and homes: proprietorship and indebtedness", will show some disagreements that should be explained.

The statistics of farm families and proprietorship of farms were reported by enumerators on the population schedules, supplemented by inquiries by mail and by special agents, while the statistics of agriculture were reported by enumerators on special schedules carried by them. In the former case the farm family was the unit, while in the agricultural statistics the farm is the unit. The number of farms and of farm families will rarely agree, the number of farm families generally exceeding the number of farms, which is accounted for in many instances by there being two proprietorship families living on and cultivating the same farm, although oftener, perhaps, because of the instructions to enumerators, alluded to in the beginning of this report, that no farm should be reported of less than 3 acres, unless \$500 worth of produce had been sold therefrom during the year. Under these instructions the enumerators in many instances reported the head of the family as a farmer, it being perhaps his principal occupation, although he may work for wages at some other occupation during a portion of the year, yet did not report a farm, as the area and production were too small to be so classified. This is particularly true in Arizona and New Mexico, where there is a large proportion of such cases connected with stock raising. For the purposes of the statistics in connection with "Farms and homes", such families may be more properly considered farm families than home families, but neither in area nor production can their holdings be considered as farms in this report. Another reason for disagreement may exist, to a small extent, in the enumerators making returns for this report for only one farm in the case of what had been one farm but which at the time of enumeration had been divided into two holdings, one cultivated by the owner and one by a tenant for the year, the two families being reported separately on the population schedule, and the products being, in at least some cases, returned for one farm. This will explain why the number of farm-hiring families exceeds the number of hired farms.

The supplemental work done by mail and special agents in connection with the "Farms and homes" investigation was undoubtedly the means of changing some reports made by the enumerators relative to farm proprietorship, which accounts for the difference between the number of farm-owning families and the number of owned farms, as stated in the two reports.

This disagreement is often more apparent than real, and is largely due to differences of classification which could not be made practically to accord with each other, and to other differences which are inevitable in any attempt to establish approximately the same statistical fact by independent processes.

In the south the disagreements between the two reports are of considerable account, but the foregoing statements are sufficient to explain them, more especially the statement in regard to the supplementary work done by special agents, who visited nearly all of the counties of the south and corrected a considerable proportion of the returns of farm and home proprietorship made by the enumerators. Therefore, it is probable that the statistics

of farm families in the report on "Farms and homes" more truly represent the facts than the statistics of farm proprietorship do in this report, although, for the purpose of comparing with the "Classification according to tenure" of the census of 1880, probably the statistics of this report may more fairly be used, on the assumption that there is no great difference in the quality of the work done in the south by the enumerators of the two censuses.

## CEREALS.

At the census of 1890 the total area devoted to the cultivation of cereals in the United States in 1889 was found to have been 140,217,545 acres and the total production of cereals 3,518,816,904 bushels, such acreage and production being distributed among the different cereals as follows:

GRAIN.	Area. (Acres.)	Production. (Bushels.)
Total	140, 217, 545	3, 518, 816, 904
Corn	72, 087, 752	2, 122, 327, 547
Wheat	33, 579, 514 28, 320, 677	468, 373, 968 809, 250, 666
Barley	8, 220, 834 2, 171, 604	78, 332, 976 28, 421, 398
Buckwheat	837, 164	12, 110, 949

This area of 140,217,545 acres is an increase of 21,585,766 acres upon the total area under cereals in 1879.

YEARS,	Total area of land in coreals. (Acres.)	Percent- age of in- crease since 1879.	Area per capita of total population. (Acres.)
1889	140, 217, 545	18.20	2, 239
1870	118, 631, 779		2, 365

This increase, however, is scarcely keeping pace with the growth of population, the area devoted to the cultivation of cereals having increased but 18.20 per cent, while the total population has increased 24.86 per cent. The area per capita is 2.239 acres as compared with 2.365 acres at the Tenth Census, a decrease of 0.126 acre per capita. The significance of these figures is dependent almost entirely upon the distribution of the acreage among the different products, and it will be more fully considered in that connection.

YEARS.	Total cereal pro- duction. (Bushels.)	Percent- ago of in- crease since 1839.	Porcontage of in- erease by decades.	Number of bushels per capita of total population.
1889	3, 518, 816, 904	471.68	80. 44	56.19
1879	2, 697, 580, 229	838, 26	94, 45	53.78
1869	1, 387, 299, 153	125.38	11, 97	35, 98
1859	1, 239, 039, 947	101.30	42.84	39, 41
1849	867, 453, 967	40, 93	40. 93	37.40
1839	615, 525, 302			36.06

The figures that represent the grand aggregate of cereal production in the United States show an increase since the Tenth Census of 821,236,675 bushels, or 30.44 per cent, which is not as great, absolutely or relatively, as that of the preceding decade, when it was 1,310,281,076 bushels, or 94.45 per cent. It has more than kept pace with the growth of the population, the total production per capita being 56.19 bushels as compared with 53.78 bushels at the Tenth Census.

The total acreage under cereals and its increase during the decade are to be considered with regard to both their geographical and their productive distribution.

The center of cereal production appears to have been gradually moving westward since the first settlement of the country, and in advance of the center of population. The Eleventh Census discloses the fact that while the center of population has advanced only as far as southeastern Indiana, that of cereal production has crossed the Mississippi river. The trans-Mississippi region added to its cereal-producing area during the decade ending with 1890 the total of 23,412,450 acres, or 53.83 per cent, while the states lying east of the river show a decrease of 1,826,684 acres, or 2.43 per cent, from the area devoted to the cultivation of cereals within their borders at the census of 1880.

CEREALS. 7

Of the 49 states and territories, including the District of Columbia, 26 show an increase in total area under cereals as compared with the Tenth Census of 24,538,432 acres, while 23 states show a decrease of 2,952,666 acres. Kansas and Nebraska each show an increase of over 4,000,000 acres, North Dakota and South Dakota each an increase of between 3,000,000 and 4,000,000 acres, Minnesota an increase of between 2,000,000 and 3,000,000 acres, California, Iowa, and Missouri each an increase of between 1,000,000 and 2,000,000 acres, and Michigan and Texas each an increase of between 500,000 and 1,000,000 acres. In percentage of increase North Dakota stands at the head of the list, with 2,937.74 per cent, followed by Wyoming, South Dakota, Washington, Colorado, Nebraska, and Idaho in the order named.

The greatest decrease in total area under cereals, 430,368 acres, is found in the state of New York, which is followed by Virginia, with a decrease of 405,823 acres, Georgia and Tennessee each with between 300,000 and 400,000, Illinois and Pennsylvania each with between 200,000 and 300,000, and New Jersey, Kentucky, Maryland, and Alabama each with between 100,000 and 200,000 fewer acres devoted to the cultivation of cereals in 1889 than in 1879.

By geographical divisions, the North Atlantic shows a decrease of 1,044,489 acres, or 10.54 per cent; the South Atlantic a decrease of 733,230 acres, or 4.75 per cent, the North Central, which includes the larger portion of the great central plain, and thus embraces nearly all the leading grain-producing states in the Union, shows an increase of 20,429,272 acres, or 29.12 per cent; the South Central an increase of 832,348 acres, or 4.31 per cent; the Western an increase of 2,101,865 acres, or 55.15 per cent.

AREA AND PERCENTAGES OF AREAS IN CEREALS, BY STATES AND TERRITORIES, IN DESCENDING ORDER OF AREA: 1889.

STATES AND TERRITORIES.	Total area in cereals. (Acres.)	cereals.   Fercentage   lative per-   STATES AND TERRITORIES.		Total area in coreals. (A cres.)	Percentage of total.	Cumu- lative per- centage.	
The United States	140, 217, 545 14, 191, 410	100,00	10, 12	25. South Carolina	1, 774, 498 1, 299 428	1, 27 0, 88	94. 82 95. 70
2. Iowa	12, 560, 890	8, 96	19. 08	27. West Virginia	1, 151, 578 864, 694	0, 82 0, 62	96, 52 97, 14
4. Missouri	10, 574, 180 9, 724, 201	7.54 6.93	26, 62 33, 55	29. Oregen	828, 706 601, 357	0.59 0.43	97. 73 98. 16
<ul><li>5. Nebraska</li><li>6. Indiana</li></ul>	7, 961, 969 7, 341, 404	5, 68 5, 24	30. 23 44. 47	31. Washington	500, 671 421, 822	0, 36	08, 52
7. Ohio	6, 785, 280 6, 297, 044	4.84 4.49	49. 31 53. 80	83. Colorado	351, 08 <b>6</b>	0.25	98. 82 99. 07
9. Kentucky	4, 556, 098 4, 448, 517	3, 25 3, 17	57. 05 60. 22	84. Delaware	289, 650 185, 004	0, 21 0, 13	99, 28 99, 41
11. Wisconsin	4, 319, 002	3.08	63, 30	86, Maine	171, 777 122, 878	0, 12 0, 09	99, 53 99, 62
12. Tennessee	4, 288, 082 3, 969, 444	3.06 2.83	66, 36 69, 19	38. Idaho	98, 175 85, 695	0, 07 0, 00	99, 09
14, Michigan 15. California	3, 891, 686 3, 812, 751	2.78	71. 97 74. 69	40. Montana	77, 162	0.05	99.80
16. South Dakota	3, 701, 604 3, 627, 585	2. 64 2. 50	77. 83 79. 92	42. New Hampshire	63, 376 61, 498	0,05 0,04	99. 85 99. 8 <b>9</b>
18. Georgia 19. New York	8, 817, 665	2. 37	82, 29	43. New Mexico	61, 340 22, 701	0,04 0.02	99. 93 99. 95
20. North Dakota	8, 239, 466 8, 235, 345	2. 31 2. 31	84. 60 80. 91	45. Wyoming	21, 815 19, 883	C. 02 0. 01	99. 97 99. 98
21. Virginia	2, 802, 992 2, 514, 473	2.06 1.70	88. 97 90. 70	47. Novada 48. Rhodo Island	15,530 12,661	0,01	00.00
23. Arkansas	2, 080, 208 1, 842, 774	1.48 1.31	92. 24 93. 55	49. District of Columbia.	555	0.01.	100.00

The extent to which the cultivation of cereals is centralized is shown in the foregoing table. Nearly one-fifth of the total area devoted to them is found in the states of Illinois and Iowa; the addition of Kansas and Missouri raises the proportion to over one-third, while the further addition of Nebraska, Indiana, and Ohio, making 7 states in all, accounts for practically one-half of the total cereal acreage of the country. A comparison of the rank of the various states in 1880 and 1890 shows that while Illinois and Iowa retain their former positions as first and second in the list, respectively, Kansas has passed Ohio, Indiana, and Missouri and has taken the third place, and Nebraska has passed 10 states that had a larger cereal acreage in 1880 and taken the fifth place. The change in the relative rank of the Dakotas is greatest. In 1880 Dakota territory as a whole stood only twenty-ninth in rank; the combined cereal acreage of the two states of North Dakota and South Dakota is now exceeded only by Illinois, Iowa, Kansas, Missouri, Nebraska, and Indiana.

This comparison relates, it must be remembered, only to acreage, the relative distribution of such acreage among the crops yielding a higher or lower quantitative return per acre, together with the variations in the average yield per acre, having the effect of disposing the states in a different order of rank when the basis of comparison is the total number of bushels produced, as shown in the table on the following page.

PRODUCTION OF CEREALS WITH PERCENTAGES OF TOTAL PRODUCT, BY STATES AND TERRITORIES, IN DESCENDING ORDER OF PRODUCTION: 1889.

4-1-1						1	
STATES AND TERRITORIES,	Total production. (Bushels.)	Percentage of total.	Cumu- lative per- centage.	STATES AND TERRITORIES.	Total production. (Bushels.)	Percentage of total.	Cn lativ com
The United States	3, 518, 816, 904	100.00	70.70	25. Maryland 26. West Virginia	25, 764, 098 20, 554, 325	0, 73 0, 58	
1. Iowa	483, 198, 008	18.73	13.73	27. South Carolina	17, 475, 090	0.50	97. 22
2. Illinois	468, 643, 860	18.32	27. 05	28, Oregon	16, 423, 768	0.47	97.69
8. Kansas	837, 753, 689	9.60	36.65 44.42	29. New Jersey	14, 287, 404	0.41	98.10
4. Nobraska	273, 337, 889	7. 77 •7. 60	52.02	30. Louisiana	13, 380, 454	0.38	93.48
5. Missouri	267, 305, 006	5, 45	52. 02 57. 47	81. Washington	10, 003, 770	0.29	98.77
6. Ohio		5.48	62.55	32, Colorado	7, 250, 621	0.21	98.98
7. Indiana	178, 881, 244	3. 03 3. 91	60, 40	33. Vermont	5, 916, 782	0.17	99, 15
8. Minnesota	137, 590, 535 127, 002, 822	8. 61	70.07	84. Delaware	4, 931, 025	0, 14	99, 29
9. Wisconsin		8,05		35. Maine	4, 888, 734	0.14	09.43
10. Pennsylvania			73, 12	36, Florida	4, 106, 518	0.12	99.55
11. Kentucky	•	2. 80 2. 73	75. 92 78. 65	37. Utah	2, 395, 744	0.07	99, 62
12. Michigan	1	2, 73		38. Connecticut	2, 339, 938	0.07	99.69
13. Toxas			81.10	39. Montana	2, 168, 665	0.06	99.75
14. Tennessee	79, 527, 869	2, 26	83. 30	40. New Hampshiro	2, 115, 629	0.00	99.81
15. New York	78, 272, 587	2, 22	85, 58	41. Idaho	2, 036, 655	0.06	99.87
16. California		1.78	87. 36	42. Massachusetts	1, 907, 839	0.05	09.92
17. Virginia	1	1.17	88. 53	43. New Mexico	· '	0.03	99.95
18. Arkansas		1,11	89.64	44. Wyoming	502, 085	0.01	99.90
19. South Dakota		1.08	90.72	45. Arizona	470, 058	0.01	99. 97
20. Georgia	L	1,00	91. 73	40. Nevada	424, 846	0.01	99, 98
21. North Carolina	1 ' '	0,99	92, 71	47. Rhodo Island	372, 396	0,01	90.00
22. North Dakota	1	0, 97	93, 08	48. Oklahoma	841, 848	0.01	100.00
23. Alabama		0, 95	94, 63	49. District of Columbia	13,845	}	
24. Mississippi	27, 531, 708	0,78	95. 41				

Although, as already shown, Illinois had the largest area devoted to the cultivation of cereals in 1889, it was no longer the leading state as regards production, Iowa, with a total of 483,198,008 bushels, exceeding it by 14,554,148 bushels. This is due, in connection with its large cereal acreage, to the higher average yield per acre in Iowa. Comparing Missouri and Nebraska, the former has a larger area under cereals by 1,762,232 acres than the latter, yet falls behind it in total production to the extent of 6,032,793 bushels. Nebraska had nearly 88 acres out of every 100 of its total cereal area under corn and oats, while Missouri had less than 80 acres out of every 100 under those crops; there was a higher average yield per acre in Nebraska, there being a difference of 6.96 bushels per acre in the case of corn and of 5.41 bushels per acre in that of oats in favor of that state. Of the total cereal production of the country in 1889, more than one-half was contributed by the 5 states of Iowa, Illinois, Kansas, Nebraska, and Missouri. The addition of Ohio, Indiana, Minnesota, Wisconsin, Pennsylvania, and Kentucky gives more than three-fourths, and before one-half of the states in the Union have been enumerated, taking them in the rank of production, over 90 per cent of the total cereal production of the country has been accounted for. Cereal production in the United States not only nearly trebled in volume between 1869 and 1889, but in the latter year the production of 4 states exceeded by 175,634,293 bushels the total production of the entire country 20 years before.

Although the total area devoted to the cultivation of cereals in 1889 exceeded the area so cultivated in 1879 by 21,585,766 acres, there was a falling off of 1,850,819 acres, or 5.22 per cent, in the acreage devoted to wheat, which forms the staple article of food. There was an increase in the acreage under oats of 12,176,084 acres, or 75.42 per cent. The area under corn increased 9,719,248 acres, or 15.58 per cent as compared with an increase of 24.86 per cent in population. Barley increased 1,223,107 acres, or 61.22 per cent, and rye was cultivated somewhat more extensively in 1889 than in 1879, the increase being 329,371 acres, or 17.88 per cent. This increase falls short of the increase in population. Buckwheat shows a reduced area amounting to 11,225 acres, or 1.32 per cent.

There was not one of the six cereals that did not show a higher average yield per acre in 1889 than in 1879, the increase ranging from 0.54 bushel per acre in the case of buckwheat to 3.31 bushels per acre in that of oats. The necessary effect of this greater productiveness is that the ratio of increase as regards total production is considerably greater than that in the case of acreage, the production of barley having increased by 34,335,481 bushels, or 78.04 per cent; that of corn by 367,735,871 bushels, or 20.96 per cent, and that of rye by 8,589,803 bushels, or 43.31 per cent. The increase of 75.42 per cent in the acreage under oats, taken in conjunction with an increase in the average yield per acre from 25.26 bushels to 28.57 bushels, falls but little short of doubling the crop, the production in 1889 being 809,250,666 bushels as compared with 407,858,999 bushels in 1879, an increase of 401,391,667 bushels,

CEREALS. 9

or 98.41 per cent. In the case of wheat and buckwheat the increased yield per acre has overborne a reduction in the acreage, in the former case to a considerable amount, as already shown. The average yield of wheat per acre in 1889 was 13.95 bushels as compared with 12.97 bushess in 1879; the total production, 468,373,968 bushels, was in excess of that of 1879 by 8,890,831 bushels, or 1.93 per i ent. In the case of buckwheat, owing to a higher average and per acre, a decrease in area is accompanied by an increase of product, the production in 1889, 12,110,349—shels, exceeding that in 1879 by 293,022 bushels, or 2.48 per cent.

PERCENTAGE FOR EACH PRODUCT OF THE TOTAL AREA UNDER CEREALS, BY STATES AND TERRITORIES: 1889.

STATES AND TERRITORIES.	Under corn.	Under wheat.	Under oats.	Under barley.	Under	Under buck- wheat.	STATES AND TERRITORIES.	Under corn.	Under wheat,	Under oats.	Under barley.	Under rye.	Under buck- wheat.
The United States	51.41	23, 95	20. 20	2, 29	1, 55	0.60	Montana	1, 32	24. 23	08, 38	6.03	0.02	0, 02
Alabama	84, 60	1.58	13.71	0.01	0.00	0.01	Nebraska	68. 83	10.03	18.89	1.04	1. 02 0. 35	0.10
	19.08	27.42	G. 48	40.89	0. 13		Nevada	1.76	23, 38	22.47	52,04		*******
Arizona			13.80	0.01	0, 13	0.02	New Hampshire	38.61	3, 30	43, 28	8.02	1.72	5,07
Arkansas	1	6,75					Now Jersey	44. 51	20.22	20.17	0.01	12.84	2, 25
California		74.51	1.51	21,40	0.72	0.02	New Mexico	46.53	35, 63	15.18	2.42	0. 11	0, 13
Colorado	33, 98	36.17	25.00	3.44	1, 32	0.03	Now York	15, 23	14, 28	43.75	10.78	7.31	8.65
Connecticut	ı	0, 52	28, 50	0.32	18.79	4.67	North Carolina	65, 07	18. 37	14.94	0.01	1.56	0.05
Delaware		32, 58	6, 69	0,03	0. 27	0.11	North Dakota	0.37	83.74	12.45	8.38	0.05	0.01
District of Columbia	1	5,41	11. 35	••••	20,00	0. 36	Ohio	47.01	33, 45	17, 91	0.54	0.88	0, 21
Florida	89, 83	0.01	9, 96	0.00	0. 20	0.00	Oklahoma	66, 93	10, 07	22, 36	0.09	0.55	
Goorgia	77.83	5.93	15, 58	0,02	0, 63	0.01	Oregon	1.46	66, 74	26, 39	4.55	0.83	0,03
Idaho	1, 39	64, 89	22.40	10.19	1.11	0, 02	Pennsylvania	28, 15	29, 04	29, 45	0.47	7, 56	4,73
Illinois	55, 41	15.79	27. 27	0.29	1. 17	0.67	Rhode Island	61.76	0.09	28.81	2.87	6, 15	0.32
Indiana	48.85	35.01	15, 02	0.14	0, 85	0, 13	South Carolina	75, 86	6, 51	17, 30	0.04	0.23	0.00
Iowa	60, 39	4,66	20.87	4.13	0.75	0.20	South Dakota	20, 35	61, 05	15, 68	2.03	0,25	0, 04
Kansas	69, 18	14.97	13.84	0.07	1.88	0.08	Tennessee	65.09	20, 40	13, 72	0.08	0.62	0.03
Kentucky	64, 98	19.72	14, 16	0.13	1.00	0,01	Toxas	77, 59	8.88	13, 33	0.07	0, 13	0,00
Louisiana	96.80	0.00	8. 13	0.00	0.01		Utah	4.71	68,77	18, 51	5, 24	2.70	0.01
Maine	6, 34	2, 30	70, 80	6.97	0.46	13.04	Vermont	22, 50	4.54	54.91	8, 88	1.82	7,26
Maryland	47.34	41. 21	8.00	0.07	2,77	0.61	Virginia		25, 49	17.13	0.07	1.80	0.18
Massachusetts	53, 66	0.18	22, 61	2.82	16.83	3.90	Washington	1.01	74, 43	13.00	10.30	0.35	0.01
Michigan	25, 56	38, 57	27. 90	2, 55	3.62	1, 80	West Virginia		80. 31	15.70	0.03	1.30	1.19
Minnesota	1	53, 56	25, 08	5.69	1.00	0, 35	Wisconsin		17. 23	37, 67	11.00	6. 37	1.79
Mississippi	1	0.14	7. 21	0.00	0.02	0.00	1		21.01	80.00	2, 23	0.05	0.00
Missouri	62.44	20. 02	17. 24	0.02	0.25	0.03	Wyoming	1.00	21.01	60.00	2, 20	0,00	0,00
MAX	,					1		]				1	1

The result of the changes which have taken place in the area devoted to cereals is that out of every 100 acres in 1889, 51.41 acres were under corn, 23.95 acres under wheat, 20.20 acres under oats, 2.29 acres under barley, 1.55 acres under tye, and 0.60 acre under buckwheat, as compared with 52.57 acres under corn, 29.87 acres under wheat, 13.61 acres under oats, 1.68 acres under barley, 1.55 acres under rye, and 0.72 acre under buckwheat in 1879. The greatest change has taken place in the North Central division, where out of every 100 acres under cereals 49.54 acres were under corn, 24.93 under wheat, 21.92 under oats, 2.03 under barley, 1.30 under rye, and 0.28 under buckwheat in 1889, as compared with 50.88 under corn, 34.11 under wheat, 12.61 under oats, 1.23 under barley, 0.96 under rye, and 0.21 under buckwheat in 1879. Next in order is the North Atlantic division, which had 24.49 acres under corn, 21.62 under wheat, 35.41 under oats, 4.58 under barley, 7.70 under rye, and 6.20 under buckwheat in 1889, as compared with 27.64 acres under corn, 24.32 under wheat, 29.32 under oats, 4.14 under barley, 8.21 under rye, and 6.37 under buckwheat in 1879. The net result of the changes that have taken place in the South Central division is that out of every 100 acres under cereals 75.31 were under corn, 11.49 under wheat, 12.72 under oats, 0.06 under barley, 0.41 under rye, and 0.01 under buckwheat in 1889, against 72.85 under corn, 16.81 under wheat, 9.46 under oats, 0.15 under barley, 0.70 under rye, and 0.03 under buckwheat in 1879. In the South Atlantic division the proportion which the various cereals bear to the total acreage has undergone but little change, there being 65.39 acres under corn, 18.15 under wheat, 14.98 under oats, 0.03 under barley, 1.25 under rye, and 0.20 under buckwheat out of every 100 acres under cereals in 1889, as compared with 62.85 acres under corn, 21.00 under wheat, 14.45 under oats, 0.03 under barley, 1.26 under rye, and 0.41 under buckwheat in 1879. In the Western division there has been less change in the relative position of the six cereals than in any other, there being 4.31 acres under corn, 69.28 acres under wheat, 9.40 under oats, 16.22 under barley, 0.77 under rye, and 0.02 under buckwheat out of every 100 acres under cereals in 1889, as compared with 4.17 acres under corn, 68.23 under wheat, 8.82 under oats, 18.10 under barley, 0.64 under rye, and 0.04 under buckwheat in 1879.

Of the states and territories, 29 had a larger area under corn than under any other cereal and 11 a larger area under wheat, while oats had a larger acreage in 7 states and barley in 2. The minimum of diversification, so far as the six cereals are concerned, is found in the southern states, South Carolina having 75.86, Texas 77.59, Georgia 77.83, Arkansas 79.24, Alabama 84.60, Florida 89.83, Mississippi 92.60, and Louisiana 96.86 acres under corn out of every 100 acres under cereals. The proportion under wheat is highest in North Dakota, California, and Washington, where it is, respectively, 83.74, 74.51, and 74.43 per cent of the total acreage.

Although Minnesota had a considerably larger area under wheat than any other state, the diversification of crops is so generally practiced in that state that the wheat acreage constitutes only 53.56 per cent of the total area under cereals. In Maine, Montana, and Wyoming 70.80 acres, 68.38 acres, and 66.96 acres, respectively, out of every 100 acres under cereals are devoted to the cultivation of oats. The acreage under barley constitutes 52.04 and 46.89 per cent, respectively, of the cereal acreage of Nevada and Arizona; yet the production is small, and in the leading barley producing states, California, Wisconsin, and Iowa, the percentage is only 21.40, 11.00, and 4.13. Rye is cultivated extensively in but few states, and in none of them does it occupy an important place in the relative amount of land devoted to it. Pennsylvania had 336,041 acres, Wisconsin 275,058 acres, and New York 236,874 acres under rye in 1889, but its proportion of the total cereal acreage of the 3 states was only 7.56, 6.37, and 7.31 per cent, respectively. Maine is the only state having 10 per cent or upward of its cereal acreage devoted to buckwheat, the proportion being 13.04 acres out of every 100. In New York and Pennsylvania, which together produced 63.96 per cent of all the buckwheat grown in the United States in 1889, the percentage of cereal acreage devoted to that product was only 8.65 and 4.73, respectively.

As the principal cultivation of cereals is centralized in a small group of states, so there is a concentration of production within the limits of many individual states. In Michigan 25 out of 84 counties produced 81.54 per cent of the corn, 74.80 per cent of the oats, and 78.90 per cent of the wheat production of the state. In Wisconsin 16 out of 68 counties produced 89.15 per cent of the barley, 65.91 per cent of the corn, 53.16 per cent of the oats, and 58.69 per cent of the wheat production of the state. In Maine over one-third of the total cereal acreage of the state was in Aroostook county. In Idaho nearly one-third of the total cereal production is reported from Latah county. In North Dakota over one-half of the total acreage under cereals was contained in the 6 counties bordering on the Red River of the North. In Oregon over one-half is found in the counties of Umatilla, Linn, Marion, Yamhill, and Polk. In Washington the counties of Whitman, Wallawalla, and Columbia contained three-fifths of the total cereal acreage of the state; in Montana over three-fifths was found in the counties of Gallatin, Deerlodge, Missoula, and Madison; in California 8 out of 53 counties contained over three-fifths of the large cereal acreage of the state, while in Arizona over three-fifths of the very small cereal acreage is found in the counties of Maricopa and Graham.

There are only 7 states in which the total area devoted to the cultivation of cereals exceeds 20 per cent of the total land surface of the states. In Illinois the proportion is 39.60 per cent, being the largest in any state; in Iowa it is 35.38 per cent, in Indiana 31.94 per cent, in Ohio 26.01 per cent, in Delaware 23.09 per cent, in Missouri 22.11 per cent, and in Kansas 20.22 per cent. In New York it is 10.63, in Massachusetts 1.23, and in Maine 0.90 per cent. In Wyoming the percentage is 0.03 and in Arizona 0.03, which is the smallest percentage of surface devoted to the production of cereals in any state or territory.

The three following tables show the distribution of wheat, oats, and corn with reference to altitude, mean annual temperature, and mean annual rainfall:

DISTRIBUTION OF WHEAT, OATS, AND CORN IN ACCORDANCE WITH ALTITUDE.

ALTITUDE. (FEET.)	Wheat, (Bushels.)	Oats. (Bushels.)	Corn. (Bushels.)	PERCENTA	GE IN EAC	n group,	PERCENTAGE BELOW EACH ALTITUDE.			
	(Danacie)	(Desirons.)	(124310151)	Wheat.	Oats.	Corn.	Wheat.	Oats.	Corn.	
Below 100	21, 332, 107	5, 324, 853	41,921,079	4. 55	0.66	1.98	4. 55	0, 66	1,08	
100 to 500	61, 428, 875	57, 271, 130	254, 762, 225	13.12	7.08	12.00	17.87	7.74	13, 98	
500 to 1,000	207, 589, 331	416, 490, 720	962, 189, 001	44.32	51.47	45. 84	61.99	59, 21	59, 32	
1,000 to 1,500	119, 884, 717	256, 016, 164	622, 800, 265	25.60	31.64	29. 34	87.50	90, 85	88, 66	
1,500 to 2,000	35, 006, 634	50, 988, 565	168, 638, 928	7.47	6.30	7, 95	95,00	97, 15	96. 61	
2,000 to 3,000	14, 032, 992	14, 288, 016	61, 146, 579	8.00	1.77	2. 88	98.06	98, 92	99, 49	
3,000 to 4,000	2, 723, 785	2,774,301	8,002,409	0.58	0.34	0.88	98, 64	99, 26	90, 87	
≰,000 to 5,000	1, 871, 777	1, 812, 791	1, 507, 875	0.40	0.22	0.07	99.04	99, 48	99, 94	
6,000 to 6,000	2, 867, 061	1, 967, 226	763, 185	0.61	0.24	0.04	99, 65	99.72	99, 98	
6,000 to 7,000	654, 441	925, 731	323, 359	0.14	0.11	0.01	90, 70	99, 83	99, 99	
7,000 to 8,000	473, 448	712, 582	131,972	0.10	0,09	0.01	90, 80	99, 92	100,00	
8,000 to 0,000	324, 220	398, 920	59, 167	0.07	0.05		99, 96	99, 97		
9,000 to 10,000.	181,516	247, 373	21, 391	0.04	0.03		100.00	1.00, 00		
10,000 and above	3,064	32, 294	112							

